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REMARKS

In response to the Office Action dated December 23, 2003, Applicant respectfully requests reconsideration and withdrawal of the rejections of the claims.

Claim 14 was rejected under the second paragraph of 35 U.S.C. §112, on the grounds that it was considered to be indefinite. The Office Action questions what is meant by the recitation that the bottom and top layers of the integrated circuit medium communicate through the opening. This claimed feature is directed to the fact that the top and bottom layers are in contact with one another through the opening. As recited in the remainder of the claim, since these layers are formed by an extrusion process, a homogeneous molecular continuity of the extruded material is formed within the opening, so that the top and bottom layers are joined together in a monolithic fashion. To remove the basis for the rejection, claim 14 has been amended to recite that the top and bottom layers are joined through the opening. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 1-5, 7 and 8 were rejected under 35 U.S.C. §102, on the grounds that they were considered to be anticipated by the Jarvis patent (U.S. 5,387,306). Claims 6, 9-12 and 14 were rejected under 35 U.S.C. §103, on the basis of the Jarvis patent in view of the Masahiko patent (U.S. 5,852,289). It is respectfully submitted that the Jarvis patent neither anticipates, nor otherwise suggests, the claimed subject matter, whether considered by itself or in combination with the Masahiko patent.

Claim 1 recites a method of manufacturing integrated circuit media, e.g. smart cards, having an electronic chip that is connected to a winding that functions as an antenna. The media has a body that comprises a covering layer on at least one side of these components. In accordance with the claim, the method of manufacturing

such a card comprises the steps of providing the electrical components on a support sheet, and extruding the covering layer immediately in contact with the support sheet.

The Jarvis patent discloses a method for manufacturing an integrated circuit card. However, this method does not employ an extrusion process to form the cover sheet and place it on the electrical components. Rather, as illustrated in Figure 3, the Jarvis patent describes a laminating process. An integrated circuit 1 and a capacitor 2 are mounted on a flexible substrate 3, which forms an insert 42. The inserts 42 are attached to threads 41, which are wound on a spool 40. The covering layers 34 and 35 of the card comprise polyester webs wound on spools 32 and 33. As illustrated in Figure 3, during the manufacturing operation, the threads 41 containing the inserts 42 are unwound from the spool 40, and sandwiched between the two webs 34 and 35. These three layers of materials, together with an injection moldable material from a mixing head 44, are captured between a pair of belts 21, 22 which form a mold cavity 29 (Figure 5), where they are pressed together by heated shoes 30 and 31.

It is respectfully submitted that, in the process of the Jarvis patent, the covering layers 34 and 35 are not extruded onto the flexible substrate 3. Attached to this response is a copy of a relevant page from the McGraw Hill Dictionary of Scientific and Technical Terms, Fourth Edition. As set forth therein, the process of extrusion is one in which a solid material "is forced through the orifice of a die to produce a continuously formed piece in the shape of the desired product." Hence, extrusion results in the forming of the material into the desired shape. In the Jarvis process, the cover layers 34 and 35 are not formed into the desired shape during the

manufacture of the card. Rather, they are already present in the form of webs prior to the process of forming the cards. In other words, any forming of these layers into their web shape has already taken place off-site, rather than as they are being placed in contact with the electrical components. Instead of an extrusion process, insofar as the attachment of the covering layers to the inserts 42 is concerned, the Jarvis patent discloses a laminating technique. In this process, the inserts are sandwiched between the two covering layers, which are then joined by heat and pressure from the shoes 30, 31.

The rejection states that the mold cavity 29 serves as a die for extruding the layers with the substrate. However, the mold cavity does not function as an extrusion die. Rather, as its name indicates, it functions as a mold. The material which forms the covering layers is not forced through any orifice in such a cavity. Instead, the cavity surrounds the layers of covering webs, inserts 42 and injection moldable material, to give the card its final shape.

In summary, therefore, in the claimed invention the covering layer is extruded immediately into contact with the support sheet containing the electronic components. In contrast, the Jarvis patent discloses a technique in which pre-formed covering layers are laminated with a web containing the electronic components. In view of this fundamental difference, it is respectfully submitted that the Jarvis patent does not anticipate, nor otherwise suggest, the subject matter recited in the claims.

Furthermore, the Masahiko patent does not overcome these differences. Like the Jarvis patent, it discloses a manufacturing technique in which pre-formed films

are laminated onto a substrate containing the electronic components. See, for example, Figure 13.

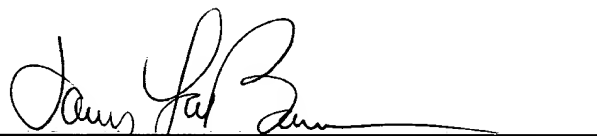
Reconsideration and withdrawal of the rejections, and allowance of all pending claims are respectfully requested.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: March 23, 2004

By:

A handwritten signature in black ink, appearing to read "James A. LaBarre", written over a horizontal line.

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McGraw-Hill DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

Fourth Edition

Sybil P. Parker

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On the cover: Pattern produced from white light by a computer-generated diffraction plate containing 529 square apertures arranged in a 23 x 23 array. (R. B. Hoover, Marshall Space Flight Center)

On the title pages: Aerial photograph of the Sinai Peninsula made by Gemini spacecraft. (NASA)

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In addition, material has been drawn from the following references: R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *U.S. Air Force Glossary of Standardized Terms*, AF Manual 11-1, vol. 1, 1972; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, 1st ed., National Aeronautics and Space Administration, 1965; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology*, White Sands Missile Range, New Mexico, National Bureau of Standards, AD 467-424; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, 1st ed., Department of Defense, 1967; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Glossary of Stinfo Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; *ADP Glossary*, Department of the Navy, NAVSO P-3097.

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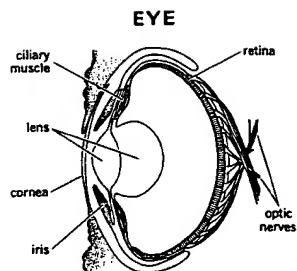
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Octopus eye (after J. Wells).
(From R. D. Barnes, *Invertebrate Zoology*, 2d ed., W. B. Saunders Co., 1968)

between the two shots farthest from each other. {ek'strēm 'spred }

extreme terms [MATH] The first and last terms in a proportion. {ek'strēm 'tərmz }

extreme ultraviolet radiation See vacuum ultraviolet radiation. {ek'strēm ,əl-trə'vī-lət ,rād-ē'ā-shən }

extreme value problem [MATH] A set of mathematical conditions which may be met by values that are less than or greater than an upper or a lower bound, that is, an extreme value. {ek'strēm 'val-yū prāb-ləm }

extremum [MATH] A maximum or minimum value of a function. Also known as extreme. {ek'strēm-rəm }

extrinsic factor See vitamin B₁₂. {ek'strinz-ik 'fak-tər }

extrinsic photoconductivity [ELECTR] Photoconductivity that occurs for photon energies smaller than the band gap and corresponds to optical excitation from an occupied imperfection level to the conduction band, or to an unoccupied imperfection level from the valence band, of a material. {ek'strinz-ik ,fō-dō-kān-dək'tiv-əd-ē }

extrinsic properties [ELECTR] The properties of a semiconductor as modified by impurities or imperfections within the crystal. {ek'strinz-ik 'prəp-ərd-ēz }

extrinsic semiconductor [ELECTR] A semiconductor whose electrical properties are dependent on impurities added to the semiconductor crystal, in contrast to an intrinsic semiconductor, whose properties are characteristic of an ideal pure crystal. {ek'strinz-ik 'sem-ī-kən,dək'tər }

extrinsic sol [PHYS CHEM] A colloid whose stability is attributed to electric charge on the surface of the colloidal particles. {ek'strinz-ik 'sāl }

extrinsic variable star [ASTRON] A variable star, such as an eclipsing variable, whose variation in apparent brightness is due to some external cause, rather than to actual variation in the amount of radiation emitted. {ek'strinz-ik ,ver-ē-ə-bəl 'stār }

extrophy [MED] Malformation of an organ. {ek'strə-fē }

extorse [BIOL] Directed outward or away from the axis of growth. {ek'strōrs }

extroversion [BIOL] A turning outward. [PSYCH] The turning to things and persons outside oneself rather than to one's own thoughts and feelings. {ek'strə'vər-zhən }

extrudate [ENG] Ductile metal, plastic, or other semisoft solid material that has been shaped into a continuous form (such as fiber, film, pipe, or wire coating) by forcing the semisolid material through a die opening of appropriate shape. {ek'strə,dāt }

extruder [ENG] A device that forces ductile or semisoft solids through die openings of appropriate shape to produce a continuous film, strip, or tubing. {ed'strūd-ər }

extrusion [ENG] A process in which a hot or cold semisoft solid material, such as metal or plastic, is forced through the orifice of a die to produce a continuously formed piece in the shape of the desired product. [GEOL] Emission of magma or magmatic materials at the surface of the earth. [TEXT] A process for making continuous-filament synthetic fibers by forcing a syruplike liquid through minute holes of a spinneret. {ek'strū-zhən }

extrusion billet [MET] A slug of heated metal that is forced through a die by a hydraulic ram in direct extrusion operations. {ek'strū-zhən ,bil-ət }

extrusion coating [ENG] A process of placing resin on a substrate by extruding a thin film of molten resin and pressing it onto or into the substrates, or both, without the use of adhesives. {ek'strū-zhən ,kōd-īŋ }

extrusion cooking [FOOD ENG] The process by which moistened, expansile materials are plasticized in a tube by combination of moisture, heat, pressure, and mechanical shear. {ek'strū-zhən ,kūk-īŋ }

extrusion defect [MET] Impaired flow of an extrusion product due to surface oxidation of the ingot or billet. {ek'strū-zhən dī,fekt }

extrusion ingot [MET] A cylindrical casting used to form extruded products. {ek'strū-zhən ,īŋ-gət }

extrusion metal [MET] Any of numerous nonferrous metals, alloys, and other materials used in extrusion operations. {ek'strū-zhən ,med-əl }

extrusion pressing See cold extrusion. {ek'strū-zhən ,pres-īŋ }

extrusive rock See volcanic rock. {ik'strū-siv 'rāk }

exudate [MED] 1. A proteinaceous material that passes through blood vessel walls into the surrounding tissue in inflammation or a superficial lesion. 2. Any substance that is exuded. {ek'syū,dāt }

exudation See sweating. {ek'syā-dā-shən }

exudation vein See segregated vein. {ek'syā-dā-shən ,vān }

exumbrella [INV ZOO] The outer, convex surface of the umbrella of jellyfishes. {ek'səm'brel-ə }

eye [FOOD ENG] A hole formed in certain cheeses during ripening, such as in swiss cheese. [ZOO] A photoreceptive sense organ that is capable of forming an image in vertebrates and in some invertebrates such as the squids and crayfishes. {ī }

eye assay [MIN ENG] An estimate of the valuable mineral content of a core or ore sample as based on visual inspection. Also known as eyeball assay. {ī 'as,ā }

eyeball [ANAT] The globe of the eye. {ī,bōl }

eyeball assay See eye assay. {ī,bōl 'as,ā }

eyeball potential [PHYSIO] Very small electrical potential at the eyeball surface resulting from depolarization of muscles controlling eye position. {ī,bōl pə,tēn-shāl }

eyebare [DES ENG] A metal bar having a hole or eye through each enlarged end. {ī,bār }

eyebolt [DES ENG] A bolt with a loop at one end. {ī,bōlt }

eye coal [GEOL] Coal characterized by small, circular or elliptical structural disks that reflect light and are arranged in parallel planes either in or normal to the bedding. Also known as augen kohle; circular coal. {ī,kōl }

eye-ear plane [ANTHRO] In craniometric study, a position for placing a human skull so that the lower margins of the orbits and the upper margin of the auditory meatus are on the same horizontal plane. Also known as Frankfurt horizontal. {ī'ēr ,plān }

eyeglasses [OPTICS] Optical devices containing corrective lenses for defects of vision or for special purposes. {ī'glās əs }

eye lens [OPTICS] The lens in a two-lens eyepiece which is nearer to the eye. {ī ,lens }

eyelet [DES ENG] A small ring or barrel-shaped piece of metal inserted into a hole for reinforcement. {ī'lēt }

eyeletting [ENG] Forming a lip around the rim of a hole. {ī'lād-īŋ }

eyelid [ANAT] A movable, protective section of skin that covers and uncovers the eyeball of many terrestrial animals. {ī,līd }

eyelights [GRAPHICS] Low-intensity light sources used to add sparkle to the eyes or teeth and reduce shadows on the face, usually placed at eye level. {ī,līts }

eye of the storm [METEOROL] The center of a tropical cyclone, marked by relatively light winds, confused seas, rising temperature, lowered relative humidity, and often by clear skies. {ī əv θə 'stōrm }

eye of the wind [METEOROL] The point or direction from which the wind is blowing. {ī əv θə 'wīnd }

eyepiece [OPTICS] A lens or optical system which offers to the eye the image originating from another system (the objective) at a suitable viewing distance. Also known as ocular. {ī,pēs }

eyepoint [OPTICS] That point on the axis of a lens at which the brightest and sharpest visual image is obtained. {ī,pōint }

eye screw [DES ENG] A screw with an open loop head. {ī ,skrū }

eye socket See orbit. {ī ,sāk-ət }

eyespot [BOT] 1. A small photosensitive pigment body in certain unicellular algae. 2. A dark area around the hilum of certain seeds, as some beans. [INV ZOO] A simple organ of vision in many invertebrates consisting of pigmented cells overlying a sensory termination. [PL PATH] A fungus disease of sugarcane and certain other grasses which is caused by *Helmintosporium sacchari* and characterized by yellowish oval lesions on the stems and leaves. {ī ,spāt }

eyestalk [INV ZOO] A movable peduncle bearing a terminal eye in decapod crustaceans. {ī ,stōk }

eye wall [METEOROL] A zone at the periphery of the eye of the storm where winds reach their highest speed. {ī ,wōl }

Eykman formula [OPTICS] An empirical formula which relates the molal refraction of a liquid at a given optical frequency